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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/882,534	06/14/2001	Garro J. Derderian	MI22-1752	8714

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WELLS ST. JOHN P.S.  
601 W. FIRST AVENUE, SUITE 1300  
SPOKANE, WA 99201

EXAMINER

THOMAS, TONIAE M

ART UNIT PAPER NUMBER

2822

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/882,534

Applicant(s)

DERDERIAN ET AL. 

Examiner

Toniae M. Thomas

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 32-56 is/are pending in the application.
- 4a) Of the above claim(s) 32-35, 40-51, 53, 55 and 56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36, 39, 52 and 54 is/are rejected.
- 7) ☒ Claim(s) 37 and 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 04/13/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 13 April 2005 has been entered.
2. Claims 32-56 are currently pending. Claims 32-35, 40-51, 53, 55, and 56 have been withdrawn from further consideration as being directed to a non-elected invention.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 36, 39, 52, and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Raaijmakers et al. (US 6,780,704 B1).

The Raaijmakers et al. patent (Raaijmakers) discloses a capacitor construction (fig. 9; col. 19, lines 1-40; col. 21, lines 16-36; and col. 25, lines 21-31). The capacitor construction comprises: a first capacitor electrode 300 over a substrate (substrate not shown, fig. 9 and col. 25, lines 21-24); an insulative layer 302a over the first electrode (fig. 9 and col. 25, lines 24-26), the insulative layer comprising a chemisorption product of first and second substantially saturated precursor monolayers (col. 19, lines 1-41 and col. 21, lines 22-36) and having a thickness of less than 10 Angstroms (col. 25, lines 24-26); a capacitor dielectric layer 302b of  $Ta_2O_5$  over the insulative layer (fig. 9 and col. 25, lines 26-27); and a second capacitor electrode (not shown) over the dielectric layer 302b and the insulative layer 302a. The insulative layer 302a, which comprises a chemisorption product of first and second substantially saturated precursor monolayers, is a  $TiO_2$  film (col. 19, lines 1-41 and col. 21, lines 22-36).  $TiO_2$  is an oxygen diffusion barrier. Thus, the insulative layer 302a is an insulative barrier layer to oxygen diffusion, and absent the barrier layer oxygen from the  $Ta_2O_5$  dielectric layer is diffusible into the first electrode 300.

$TiO_2$  exhibits a K factor of greater than about 7 at 20°C. Thus, the insulative barrier layer 302a exhibits a K factor of greater than about 7 at 20°C.

The insulative barrier layer 302a may have a thickness of less than about 6 Angstroms (col. 25, lines 24-26).

***Allowable Subject Matter***

4. Claims 37 and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toniae M. Thomas whose telephone number is (571) 272-1846. The examiner can normally be reached on Monday-Thursday from 8:30 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TMT  
29 April 2005



**Mary Wilczewski**  
**Primary Examiner**